Climate

Average temperature and precipitation data for Morganton, NC is the most local data available through the Southeast Regional Climate Center for 1/1/1933 to 12/31/2005. Average maximum temperatures ranged from 51.6º F in January to 88.6º F in July. Average minimum temperatures ranged from 28.2º F in January to 64.7º F in July. Average Total Precipitation ranged month to month from 3.43 inches (November) to 4.81 inches (March). The average annual rainfall was 49.65 inches. Average annual snowfall was 7.0 inches.

Prevailing wind data is available for Asheville, NC from the National Climatic Data Center located in Asheville, NC. Prevailing winds for Asheville from 1930-1996 were from the North-Northwest with average speeds from six to 10 miles per hour.

Average temperature, precipitation, and prevailing winds are variable across the park due to the mountainous topography creating distinct microclimates on peaks and in valleys and coves.

South Mountains State Park is located in the vicinity of latitude 35° 35' north, longitude 81° 40' west. This latitude reflects a solar azimuth altitude angle (essentially the angle of the sun relative to the horizon) of approximately 33° on the winter solstice (December 21) and approximately 79° on the summer solstice (June 21). On the winter solstice, the sun rises (without correction for topography) approximately 62° east of south and sets at approximately 62° west of south. On the summer solstice, the sun rises (without correction for topography) approximately 117° east of south and sets at approximately 117° west of south. This information is useful for siting buildings and other structures for energy efficiency and solar comfort, both important in designing for sustainability.

A weather station was installed in the vicinity of the South Mountains State Park Visitor Center in January 2007. It measures wind, rainfall, barometric pressure, soil temperature, and evapotranspiration rates.

Installation of new weather station at visitor center, January 2007